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Farm Cost

SITUATION

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GENERAL SITUATION

Farm cost rates, for the most part, will continue high again in 1949. A few cost rates, notably feed, will be lower in 1949 than in 1948. As a result, individual farmer's total cost will be affected differently depending largely on type of farm he is operating. Livestock feeders in general will have lower cost rates in 1949 than a year ago, but operators of other types of farms probably will be faced with higher costs. For the country as a whole, farmers' total costs may be around 5 percent lower in 1949 than in 1948.

Farm costs in 1948 continued the upward swing they have maintained for over a decade. Feed costs were the only important items in the farmer's array of expenditures that showed any marked decline during the year. The index of feed prices in 1948 declined almost steadily from a

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Goods and services used in production: Prices paid by farmers and farm wage rates, United States

(Index numbers 1935-39=100)

Year	All commodities 1/	Farm machinery	Building material other than house	Equipment and supplies 2/	Feed	Fertilizer	Seed	Wage rates
1910	77	66	68	91	86	99	-	82
1911	81	66	70	90	99	99		83
1912	77	66	70	90	84	100	66	86
1913	80	66	68	90	99	102	63	88
1914	78	66	63	89	94	100	64	86
1915	82	68	69	95	93	112	77	87
1916	98	70	79	116	120	120	92	96
1917	119	80	93	141	170	137	96	119
1918	137	102	109	163	179	170	123	150
1919	151	105	128	162	195	182	181	175
1920	137	109	139	170	127	186	98	205
1921	111	105	105	137	90	156	86	131
1922	109	93	107	126	114	129	84	129
1923	111	97	109	123	124	126	92	144
1924	112	101	109	120	131	120	97	147
1925	116	101	111	126	131	129	111	149
1926	115	101	109	130	127	126	138	152
1927	113	101	108	127	128	121	127	152
1928	117	101	107	124	137	131	115	152
1929	116	100	107	123	134	130	119	153
1930	111	100	105	118	122	126	112	142
1931	97	99	94	104	86	115	98	110
1932	86	93	85	96	64	99	66	81
1933	85	91	87	93	71	96	61	72
1934	97	95	99	98	98	104	90	81
1935	100	96	97	97	105	102	99	88
1936	98	98	98	99	104	96	91	94
1937	107	101	105	102	121	102	124	107
1938	99	104	100	103	85	100	102	106
1939	96	101	100	99	85	100	84	105
1940	98	100	101	99	94	97	84	107
1941	103	103	109	104	101	100	80	131
1942	117	108	120	114	125	111	123	171
1943	128	111	128	121	150	120	156	224
1944	136	114	138	126	165	121	175	268
1945	137	116	141	128	163	121	181	297
1946	151	120	158	132	194	124	190	321
1947	184	137	222	150	235	138	230	346
1948	201	160	237	168	246	152	224	367
Jan.	204	-	-	-	291	-	-	360
Feb.	201	-	-	-	264	-	219	-
Mar.	201	148	235	163	267	-	221	-
Apr.	203	-	-	-	271	150	220	357
May	204	-	-	-	269	-	219	-
June	204	159	237	168	266	-	-	-
July	203	-	-	-	254	-	-	366
Aug.	200	-	-	-	231	-	-	-
Sept.	199	164	239	170	220	155	230	-
Oct.	196	-	-	-	205	-	236	363
Nov.	196	-	-	-	202	-	-	-
Dec.	197	168	236	172	206	-	-	-
1949								
Jan.	197	-	-	-	206	-	-	375
Feb.	196	-	-	-	196	-	261	-

1/ Excluding wages.

2/ Based on prices paid by farmers for 16 items including binder twine, lead arsenate, milk pails, pitchforks, gasoline for autos and trucks, motor oil and tires, and other similar items used on farms for production.

Note:- For a list of items included in this table see "Agricultural Prices" Bureau of Agricultural Economics, April 29, 1946.

high of 291 in January 1948 to 202 in November; a decline of over 30 percent, but even so the average for 1948 was 4 percent higher than in 1947. The index of all prices paid by farmers for production goods (1935-39=100) averaged 201 for 1948 compared with 184 for 1947.

Farm costs and cost rates lag behind farm prices and incomes when prices rise, but they also lag behind and remain relatively higher than farm prices when prices decline. As a result, increases in net farm incomes are accentuated as prices rise, but they also are reduced relatively more when prices decline and costs remain high. Last year was the first in over a decade when costs increased faster than did prices received, and despite relatively high production, some important types of farms had lower net farm returns than in 1947. It is highly probable that more farmers in 1949 will find their net returns lower than in 1948.

Despite the current prospects for higher cost rates and lower prices of many farm products, net incomes will be sufficiently high in 1949 to allow many farmers to improve their financial positions. In the first place, many farmers are more efficient producers than ever before. Operators of some types of farms (particularly crop farms) over a period of years have cut substantially their input requirements per unit of production. Second, they are operating larger farms and have more opportunity to maximize returns by making necessary alterations and adjustments in individual enterprises. Third, many operators have reduced their debts and are in a better position to weather financial difficulties.

On the other hand, many farmers are faced with increased cash costs. Replacing horse-and-mule power with mechanical power means larger cash outlays for auxiliary equipment, motor fuels, and replacements. Other improvements on the farm and in the home have increased cash outlays.

Farm wage rates continued to rise through 1948 and averaged about 6 percent higher than in 1947. Farm wage rates probably will decline during the year in some areas, and the supply for the most part will be adequate.

Prices of farm machinery continued to increase during 1948 and averaged about 17 percent higher in 1948 than in 1947. They increased slightly more during 1948 than during 1947. Compared with the prewar base, 1935-39, machinery prices are not high compared with farm product prices.

New farm machinery plants have been coming into production, and with more adequate supplies of labor and materials conditions are favorable for a further increase in production in 1949. However, with a decline in 1949 of farm product prices and farm incomes, and with farm machinery prices at record high levels, the quantity of farm machinery purchases by U.S. farmers in 1949 may be slightly below the record purchases in 1948.

Stocks of feed grains on January 1 were the largest on record both in total and in relation to the number of grain consuming livestock. Prices of feed grains are expected to average 15 to 20 percent lower in 1949 than in 1948, and it will continue to be profitable to feed milk cows heavily and to feed other livestock to heavier weights.

Farmers in general may find their total bill for seeds lower in 1949 than in 1948, but the reduction will not be large. Retail prices of 18 out of 30 important field seeds showed some decline in February compared to a year ago. Timothy and redtop, however, have more than doubled in price since last year, mostly because of the small crops in 1948. Supplies of most seeds, including vegetable seeds, are adequate to meet expected demands.

Fertilizer prices in 1948 averaged a little more than 10 percent higher than in 1947, and they are now slightly higher than a year ago. However, considering fertilizer prices in relation to prices of farm products, it will pay most farmers to increase the use of fertilizer. Fertilizer supplies are expected to be larger in 1949 than in 1948. But even with these record levels, production of nitrogen and potash may be still less than farmers would like to use.

Prices of lumber in 1949 are expected to average from 5 to 10 percent lower than in 1948, but prices of most other building supplies and containers are expected to remain near present levels with some tendency to decline on some items.

Supplies of building materials, containers, and miscellaneous items improved during 1948, and production and greater availability are expected to continue in 1949. No shortages of these materials will hamper agricultural production in 1949.

With the exception of some insecticides such as those containing nicotine, rotenone, and pyrethrum, supplies of most insecticides and fungicides will be adequate to meet all demands. Some new kinds of insecticides will be available. Farmers can help speed distribution by indicating promptly to their suppliers the kind and approximate quantities of insecticides and fungicides they plan to use. No appreciable price change is expected as the season develops.

The cost of buying and equipping a farm is at a record high. The average value of farm land last November was the highest on record and about 4 percent higher than in 1920. Some areas, however, showed a decline. Preliminary estimates for March 1949 show the first general tendency for land values to level off since before the war. Farm land continued to yield a high return in 1948, although the rate was slightly

below the previous year.

Preliminary reports indicate that tax rates on farm property increased again in 1948 for the fifth consecutive year. Still greater demands upon the revenues of local governments in 1949 will add to the pressure for higher tax rates.

Interest rates on farm mortgages and other debts have not changed materially. Farmers have increased their borrowings and the proportion borrowed from the higher rate lenders has increased. Taxes and interest on mortgage-indebtedness do not now represent a large proportion of the total costs for many farmers but if prices decline, such obligations will prove more burdensome.

Farm Labor

The supply of farm labor this year probably will be somewhat greater than in 1948. Generally ample supplies of farm machinery will help make possible relatively high production per farm worker. Greatly increased use of mechanical harvesting equipment will ease the seasonal labor situation in most sugar beet areas which have been among the tightest labor spots in recent years. Nonfarm competition for potential farm workers, especially in rural areas, will be less than a year ago. Despite the prospective general increase in availability of farm labor, however, farmers in some local areas may experience difficulty in securing sufficient workers at periods of peak seasonal demand.

On the average, farm wage rates probably will hold close to those of 1948. Although wage rates may be higher than a year ago in some local areas, they will tend to remain stable or decline in most areas. Farm wage rates in 1948 were over 3.5 times their prewar average (table 1).

Farm Power and Machinery

Although the production capacity of farm machinery plants has increased and supplies of labor and materials are more adequate now than for any recent year, production of farm machinery and equipment in 1949 may be somewhat less than the record production of 1948. But, because the backlog of orders for machinery has been sharply reduced, many items that were in short supply a year ago are now readily obtainable with only a few items likely to be in short supply by the end of 1949. It appears, however, that production will be reduced in line with farmer's purchases of machinery because of declines in prices of farm products and farm incomes and increases in prices of farm machinery. Then too, the backlog of farm machinery needs has been about filled.

Table 1.- Farm wage rates and related data, United States,
1935-39 average and 1940-48 inclusive
(Index numbers 1935-39=100)

Period or year	Farm employment			Gross farm production 2/		Farm wage rates	Ratio of farm wage rates to	
	Total 1/	Family 1/	Hired	Total	Per worker 3/		Pro- duction: per worker	Gross farm income per worker 4/
1935-39	100	100	100	100	100	100	100	100
1940	97	96	100	108	111	107	96	98
1941	95	94	99	111	117	131	112	94
1942	95	94	99	123	129	171	133	91
1943	94	94	94	120	128	224	175	95
1944	92	93	87	124	135	268	199	106
1945	90	92	82	123	137	297	217	110
1946	92	94	84	126	137	321	234	106
1947	93	95	87	121	130	346	266	97
1948 5/	92	93	89	130	141	367	260	99

1/ Includes farm operators and members of their families working without wages.

2/ Includes value of farm-produced power of horses and mules.

3/ Based on total farm employment and total gross production.

4/ Because of the increase in volume of production and the increase in the price of farm products, the gross farm income per worker has increased at about the same rate as have farm wage rates from the prewar years of 1935-39 to 1948.

5/ Preliminary.

Large tractors continue in short supply in many areas and the demand is strong for self-propelled combines and some other new types of machines which have increased rapidly in numbers and in use. Production of such items likely will be increased in 1949.

Complete details of 1948 production are not yet available but it is expected that total output of farm machinery, including all crawler tractors, was at least 20 percent above the previous high in 1947. It exceeded the average yearly production of 1935-39 by more than 250 percent. Production of wheel tractors in 1948 approximated 529,000 units compared with about 181,000 units for the prewar period; production of crawler tractors was only 80 percent above prewar. In 1948 windrow pick-up balers, forage harvesters, combines, corn pickers and many other farm machines were produced at new high levels.

More farm machinery was exported in 1948 than in any previous year. Exports in 1948 were about 14 percent above those of 1947. They amounted to about 16 percent of the U.S. production in 1947 and 1948.

The United States also imported more farm machinery in 1948 than in any previous year. Our imports come principally from Canada and the United Kingdom, and consist chiefly of wheel tractors and combines.

Exports of wheel tractors amounted to about 100,000 units and imports to about 24,000 units in 1948. Almost as many combines were imported as were exported in 1948. About 4 percent of the farm machinery bought by our farmers in 1948 was imported.

Although there is still a strong foreign demand for American farm machinery, exports in 1949 may decline moderately from the highs of 1948, owing principally to dollar shortages in importing countries, and increasing foreign production of farm machinery. Export demand is expected to be most pronounced for wheel and crawler tractors adapted for using heavy motor fuels and for suitable equipment of these tractors.

Prices of farm machinery have been increasing in recent years and the current prices are higher than for any previous year. Wholesale prices of farm machinery f.o.b. factory were only 13 percent above the prewar average prices in 1946, but 28 percent above in 1947 and 45 percent in 1948. The ratio of prices of farm products to prices of farm machinery will be less favorable to farmers in 1949 than in the last several years and may tend toward a lower volume of purchases. Feed prices, and costs of keeping workstock, are lower than in recent years. This also may slow the shift toward mechanical power in some areas.

For more than a decade, purchases of farm machinery have been large, and, in most of these years, prices of farm machinery have been low compared with prices of farm products, wage rates, feed prices and costs of keeping workstock. Farmers have bought large numbers of tractors and machines, and have increased tremendously the mechanization of their farms. There were about 3,150,000 tractors on farms January 1, 1948; an increase of more than 150 percent over the prewar average (table 2). A rough estimate of the number of tractors on farms January 1, 1949 would be about 3.5 million. The volume of machinery other than tractors increased about as much from prewar as did that of tractors, and there were substantial increases in numbers of farm motor trucks and automobiles. With the large purchases of farm machinery during 1948, it appears that the increase in the amount of machinery on farms from January 1, 1948 to January 1, 1949 was greater than for any previous year.

Along with the increased use of mechanical power on farms, numbers of horses and mules and the use of animal power have declined markedly. On January 1, 1949, numbers of horses and mules of all ages were only 53 percent of their prewar average. The size of the colt crop has declined each year since 1941. In 1948, farmers raised only 27 percent as many colts as were raised annually in the prewar period. Lower feed prices, lower farm prices and lower farm incomes may tend to reduce the rate of decline in horse and mule numbers but the current colt crop is too small to sustain the present horse and mule population. A further decline in numbers of horses and mules is in prospect.

Feed .

Stocks of feed grains on January 1 were the largest on record, both in total and in relation to the number of grain consuming livestock. The number of chickens and turkeys to be raised in 1949 and the spring pig crop are expected to be larger than a year ago and the feeding rate per

Table 2.- Farm power and machinery and related data, United States, 1935-39 average and 1940-48
(Index numbers 1935-39=100)

Year or period	Number on farms, January 1 1/										Volume on farms January 1 2/				Gross farm income calendar year 3/	Prices received by farmers
	Horses and mules, all ages	Work stock 3-years old and over	Colts under 1-year of age	Tractors	Auto- mobiles	Motor trucks	All farm machinery and equipment other than tractors and motor vehicles		All farm power, (including work animals) machines and equipment		Percent					
							Percent	Percent	Percent	Percent		Percent	Percent			
1935-39	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
1940	92	89	101	124	106	108	119	107	106	93						
1941	90	87	98	135	111	113	126	111	133	115						
1942	87	84	85	152	120	119	140	117	178	148						
1943	84	83	69	169	112	132	156	122	221	179						
1944	80	81	62	178	107	142	160	123	232	182						
1945	73	77	54	195	107	153	175	128	241	188						
1946	70	72	41	208	107	159	194	132	280	217						
1947	64	66	35	225	116	178	215	141	333	259						
1948	58	61	31	253	127	197	248	154	341	267						
1949 4/	53	55	27													

1/ The 1935-39 average was for horses and mules all ages, 15,750,000 head; for work stock 13,700,000 head; for colts 741,000 head; for tractors 1,244,000; for automobiles 3,896,000; and there were 973,000 motor trucks.
2/ In terms of 1935-39 prices. 3/ Includes government payments. 4/ Preliminary.

head of livestock is currently heavy. From 10 to 15 percent more grain and other concentrates will be fed in the 1948-49 season than a year earlier. Nevertheless the carry-over of feed grains at the end of the season is expected to be the largest on record. If an average or larger crop of feed grains is harvested this year, supplies also will be large for the 1949-50 feeding season.

Feed-livestock price relationships now are quite different from a year ago. Livestock and livestock product prices are still relatively high although not quite as high as a year ago but feed prices in March were down more than a third from a year earlier (table 3). The ratio of livestock prices to feed prices is therefore very favorable for heavy feeding of most kinds of livestock. It is expected that the relationship will continue favorable for several months, even though grain prices may rise seasonally this spring. The only ratio that is below average for this time of year is the butterfat-feed price ratio. The ratios of milk and chickens to feed are average or a little above and that of hogs and steers much above average.

Hogs probably will continue to be marketed at heavy weights even though lard is a third lower in price than a year ago. With hogs at \$20 and corn \$1.25 a bushel a farmer can put 50 pounds of gain on a 225 pound hog in a month and sell it for \$1.00 less per hundred pounds (\$19.00) and still break even.

Milk cows will continue to be fed grain heavily since the decline in prices of milk in most areas has been less than the decline in the cost of feed. The cost of 100 pounds of concentrates fed to milk cows in March in milk selling areas was \$3.24 compared with \$4.26 a year ago. In cream selling areas the cost was \$2.73 compared with \$3.94. In most of the milk selling areas 70 to 80 pounds of milk will now pay for 100 pounds of grain and other concentrates fed to milk cows. Under these circumstances it generally will pay to feed good cows at the rate of one pound of grain for each $2\frac{1}{2}$ to $2\frac{3}{4}$ pounds of milk produced or even a little heavier if the cows are not getting all the hay or other roughage they can eat. This applies to feeding on pasture as well. It seems probable that feeding grain on pasture this summer will pay well especially after the first four to six weeks of the pasture season is past. In the North this is often the time when pastures dry up and milk production falls off. In the cream selling areas it is not quite as favorable for heavy grain feeding.

The cost of the poultry ration in March was down 25 percent from a year ago while the average price of eggs was down less than 5 percent and the price of live chickens was up over 10 percent. The cost of high protein feeds is lower now than a year ago and the decline has been more than that of livestock prices but not quite as much as grain. One hundred pounds of high protein feeds when fed to balance the ration usually will replace from 150 to 250 pounds of grain or more depending on the kind of livestock to which it is fed. Soybean meal in Iowa in March was a little less than twice the price of corn.

Table 3.- Prices of livestock and feed, 1927-49
(Index numbers 1935-39=100)

Year	: Livestock and livestock product prices 1/	: Feed grains and hay prices 1/	: Ratio of livestock prices to feed prices
1927	127	121	105
1928	136	130	105
1929	138	126	110
1930	117	113	104
1931	85	78	109
1932	63	51	124
1933	62	60	103
1934	72	100	72
1935	98	113	87
1936	103	107	96
1937	109	132	83
1938	97	75	129
1939	93	73	127
1940	96	86	112
1941	120	94	123
1942	148	117	126
1943	172	155	111
1944	166	175	95
1945	174	170	102
1946	206	206	100
1947	251	260	97
1948	Jan. 280	335	84
	Feb. 256	275	93
	Mar. 258	300	86
	Apr. 260	307	85
	May 264	297	89
	June 279	293	95
	July 294	270	109
	Aug. 294	248	119
	Sept. 294	235	125
	Oct. 277	203	136
	Nov. 268	191	140
	Dec. 262	194	135
1948	274	263	104
1949	Jan. 253	197	128
	Feb. 240	182	132
	Mar. 246	188	131

1/ Calendar year. The factors for converting index numbers from August 1909-July 1914=100 to 1935-39=100 are: livestock and livestock products, 116.6; feed grains and hay, 94.8.

Seeds

In general, the cost of field seeds will be somewhat lower in 1949 than in 1948. Retail prices of 18 out of 30 important field seeds showed some decline in March compared with a year ago. All seed grains, seed potatoes, red clover, alsike clover and lespedeza were priced lower.

Exceptions to this downward trend, however, are most spring-sown perennial grass seeds, alfalfa, sweet clover and white clover. To head the higher priced list, timothy and redtop have more than doubled in price since last spring mostly as a result of last year's small crops (table 4).

Table 4.- Retail seed prices, March 15, United States
Index numbers (1943-47=100)

Item	March 15	
	1948	1949
Alfalfa, common	86	128
Alfalfa, improved varieties	98	130
Clover, red	151	132
Clover, alsike	127	103
Clover, sweet	117	134
Clover, white	83	107
Clover, Ladino	132	121
Lespedeza, Korean	141	102
Lespedeza, Kobe	143	103
Lespedeza, sericea	112	102
Timothy	98	243
Redtop	132	332
Bluegrass, Kentucky	88	138
Orchard grass	63	97
Ryegrass, common	105	125
Brome, smooth	109	199
Wheatgrass, crested	197	294
Sudan grass	121	111
Millet, German	141	122
Millet, Hungarian	126	113
Sorgo, amber	154	101
Sorgo, orange	154	88
Rape	119	103
Vetch, hairy	141	149
Seed potatoes	115	106
Seed corn, hybrid	129	122
Seed corn, open pollinated	136	122
Seed wheat (Spring)	154	134
Seed oats	191	119
Seed barley	181	129

The effect of these new seed prices on farm production costs will vary by region and by type of farm. Consider, for example, the case of a New York dairyman who planted 8 acres of corn, 8 acres of oats, 4 acres of alfalfa and 8 acres of mixed hay in 1948. He bought and used 2 bushels of seed corn, 20 bushels of seed oats, 48 pounds of alfalfa, 32 pounds of red clover, 16 pounds of alsike clover and 72 pounds of timothy at a total cost of \$134.46. If he follows the same program in 1949 his seed bill will be \$135.85 at present prices or about what he paid for seed last year. The increased costs of grass and legume seeds, in his case, are nearly offset by the reduced cost of seed grains. Operators of most other types of farms, however, may expect a net reduction in their seed costs this year but not enough to reduce their total production costs substantially.

Fertilizer

Farmers paid approximately 14 percent more per ton for fertilizer in 1948 than in 1947. The increase for 1947 over 1946 was 12 percent. This spring fertilizer prices are slightly higher than a year ago. From 1947 to 1948, fertilizer costs to farmers increased a little more than did prices received by farmers. This is the first time since the prewar years that these costs rose more than prices received. From 1935-39 through 1947, prices received by farmers rose more each year than did prices paid by farmers for fertilizer.

However, this "leveling off" in the price advantage of farm products relative to fertilizer, is not the only basis for farmers to plan their use of fertilizer for the year ahead. The important thing is to select the right fertilizers and use them in quantities that will give greatest returns. For some types of fertilizers, including both phosphate and potash; there is not only the question of the most profitable rate for the crop on which they are applied directly, but also on the value of the carry-over effect on crops that follow. For example, these fertilizers, when used to promote good stands of grasses and legumes, contribute indirectly to increasing future yields of all crops grown throughout a rotation.

Other types of fertilizers, particularly nitrogen, give all of their returns to the crop on which it is directly applied. For these, the question of how much to use is determined by: (1) the cost of the fertilizer, (2) cost of applying the fertilizer, (3) the value of the additional product received from different rates of applying fertilizer, and (4) the cost of harvesting the additional yield.

For example, suppose the cost of 50 pounds of fertilizer is equal to the expected value of 2 bushels of corn and that the cost of application is equal to 0.5 bushel and the cost of harvesting an extra 2 bushels is equal to 0.2 bushel, it would be necessary to obtain an increase of at least 2.7 bushels per acre in order to cover direct costs of an additional application of 50 pounds of fertilizer.

The next step is to estimate the additional yield that can be expected from applying 50 pounds more fertilizer. This depends on climatic and soil conditions, including other current and past soil treatments, cropping practices, inherent yielding ability of the crop variety,

effectiveness of insect and disease control, etc. Generally speaking, the response per unit of fertilizer diminishes with each additional application. The farmer needs to draw on his own experience, and on research information, in order to estimate the response he can expect from each additional application of fertilizer.

Analysis of one set of results on a sandy soil of low fertility indicated that with an application of 315 pounds of 20 percent straight nitrogen fertilizer the increase in yield from the last 50 pounds was 2.7 bushels. Under these conditions it would pay to apply up to 315 pounds if 2 bushels of corn are equal in value to 50 pounds of fertilizer and 0.7 bushel will cover the cost of applying the extra 50 pounds of fertilizer and the harvesting of the extra yield.

Under the same conditions, if fertilizer is cheaper relative to the expected price of corn so that only 1.5 bushels equal the value of 50 pounds of fertilizer it would pay to apply up to 375 pounds. 1/

Corn equal in value to		: Increase in yield necessary	
50 pounds of	: Cost of application	:	to break even on 50 pound
fertilizer	: and of harvesting	:	application, at two different
<u>1/</u>	: quantities shown in	:	corn-fertilizer price rela-
	: column 1 2/	:	tionships (column 1)
1	:	:	3
(Bushels)	:	:	(Bushels)
	:	:	
2.0	:	:	2.70
1.5	:	:	2.15
	:	:	

1/ Obtained by dividing the cost of 50 pounds of fertilizer by the expected price per bushel of corn. The table could include any number of the many possible crop-fertilizer price relationships. At any given price of the crop, each line downward in this column would represent a lower cost of fertilizer.

2/ Assumes that 0.5 bushel of corn is required to cover the cost of application, and 0.1 bushel to cover the cost of harvesting each extra bushel of yield. These costs in terms of bushels are directly influenced by the expected price of corn. If fertilizer is applied at no extra cost, such as by means of attachment to planter or cultivator, the necessary additional yield to break even would be correspondingly reduced. In any event, however, some extra time is required to fill the fertilizer hopper, etc.

After a peak in farm prices has been passed, many farm costs remain relatively high, or decline more slowly than prices of farm products. The choice of alternative cost items is especially important during such periods. Fertilizer, when properly used gives increases in yields with little additional labor cost. It also provides a means of increasing the size of business on the same acreage. Such a course is more desirable than attempting to build up total returns through extending operations in ways that require additional permanent investments during periods of declining purchasing power.

Fertilizers are still in short supply relative to what farmers would use, if available, at present price relationships. It is estimated that the deficit of fertilizers for 1948 was about two-thirds as great as that for 1947. Fertilizer supplies (plant nutrients) made available and used by farmers in 1948 were more than 2.5 times the average consumption in 1935-39, and well above that for any previous year.

Building Materials, Supplies and Containers

Supplies of these materials have improved during 1948. The trend to moderately lower prices and greater availability for most items is expected to continue in 1949.

Lumber prices reached an all-time high in August 1948, after which they began to decline and were about 6 percent lower by January 1949. Prices in 1949 are expected to average 5-10 percent lower than those in 1948. Largely as a result of the price change, total production of lumber in 1949 is estimated to be about 4 percent less than the relatively high levels of 1947 and 1948. Though the lumber production rate slowed in the latter half of 1948, stocks have continued to rise and are now substantially above those of a year ago. The lower grades of lumber have shown the greatest price decline and the largest increase in stocks. These are the grades most important for farm construction.

Production of all steel products in 1948 exceeded that in 1947, and so far in 1949 the production rate is about 5 percent higher than in 1948. However, some steel items of importance to farmers are still in short supply. Nails and staples are being produced at a record rate. Only limited areas report short supplies of them. The supply of galvanized sheet metal is limited because of the shortage of both steel sheet and zinc. Little change in availability is expected in the next few months. Aluminum sheet which is becoming more important in farm buildings also remains in short supply. Pipe production continues to increase, but demand still exceeds supply for black and galvanized pipe of the sizes most used by farmers. Metal lath supplies are adequate now but some shortage may be expected when spring building gets under way.

The supply of farm fencing has improved and more nearly meets demands than at any time since the beginning of the war. Cement production in 1948 exceeded the production in 1947 by 11 percent. Consumption also is higher than in 1947. Indications are that supplies of cement in 1949 will be adequate to meet the demands.

Production of bale tie decreased in the fourth quarter of 1948 to about one-half of capacity, indicating that any reasonable demand could be met easily. The supply of baler twine and binder twine is expected to be sufficient to meet current demands.

Containers and packaging materials are expected to be readily available, at lowered prices. Production of wooden crates and boxes in 1948 was 15 percent below the production in 1947; probably a response to lower demands and prices. No shortage is expected in 1949. New and

used burlap bags have been readily available for some time. The Indian Government granted a quota of 150,000 tons of jute goods for export to the United States in the first half of 1949. This was the full amount requested by our Government.

Trade sources also indicate ample supplies of paper and mesh bags. Prices of all grades of bags, paper board, and boxing are being reduced to meet increased competition. Tin cans are expected to be available in sufficient quantities to meet the demands for a normal food pack. According to the best information now available, no shortages of packing materials will hamper agricultural production in 1949. Prices of most of these items are expected to remain near present levels but with some tendency to decline on some items.

Insecticides and Fungicides

Adequate supplies of insecticides and fungicides are expected to be available to protect crops during the 1949 season. In addition, many new types of insecticide formulations will be available. They will include several recently developed insecticidal chemicals--such as DDT, benzene hexachloride, toxaphene, chlordane, parathion, methoxychlor, and others--as well as supplies of well known insecticides like lead arsenate, calcium arsenate, oryollite, and those containing rotenone, nicotine, and pyrethrum.

Local availability of supplies of all of the various kinds will depend to a considerable extent on how well farmers make their needs known. If farmers will place their orders promptly with their suppliers for the kind and approximate quantities of insecticides and fungicides they plan to use, appreciable shortages of most of the various kinds of material are not likely. In the absence of current understanding as to farmer preferences, it is difficult to appraise with any accuracy the specific kinds of insecticides the farmer may desire to use. Some insecticides such as those containing nicotine, rotenone, and pyrethrum may be in close balance with grower use. There is little reason to believe there will be any appreciable price modifications as the season develops.

Farm Land Values and Rentals

The cost of buying and equipping a farm of adequate size is at a record high. The average value of farm land in the country as a whole last November was the highest on record; about 4 percent higher than in 1920. In the East South Central and Pacific States, land values averaged about a third higher than during the 1920 peak. Values were below the 1920 level in only 12 States, concentrated mainly in the western Corn Belt and Northern Great Plains.

After advancing at an average rate of 1 percent a month from 1943 to 1947, the rate of increase was somewhat slower during 1948. Land values in the country as a whole advanced about 8 percent during the year

ending last November. This brought the national index to 113 percent above the 1935-39 average. Land values in only two geographic divisions--New England and Pacific--were less than double the prewar level (table 5). The largest increases during the year ending last November, ranging from 15 to 17 percent, occurred in South Dakota, Wyoming, Nebraska, Kansas, Oklahoma and Arkansas. In the Corn Belt and in most of the Southeastern States, however, the increases ranged close to the national average of 8 percent.

Table 5.- Farm real estate: Index numbers of estimated average value per acre by geographic divisions, 1920 and 1948, with selected comparisons 1/

Geographic divisions	: Index numbers			Increase			: Ratio
	: (1935-39-100)			: Mar. 1941:Nov. 1947:Mar. 1948:Nov. 1948			
	: : 1948			: to : to : to : to			
	: 1920	: March:	: Nov.:	: Nov. 1948:	: Nov. 1948:	: Nov. 1948:	: 1920
				<u>Percent</u>	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
New England	: 133	151	157	55	5	4	118
Middle Atlantic	: 154	171	178	73	7	4	116
East North Central	: 217	217	225	110	9	4	104
West North Central	: 265	194	202	117	12	4	76
South Atlantic	: 196	220	228	111	8	4	116
East South Central	: 197	253	260	128	6	3	132
West South Central	: 186	200	216	108	14	8	116
Mountain	: 204	218	232	121	8	6	114
Pacific	: 146	197	196	92	-2	-1	134
United States	: 205	205	213	107	8	4	104

1/ Farm land with improvements as of March 1, except where otherwise indicated.

Increases occurred during the March-November period of 1948 in all States except California and Florida. Most of the States east of the Mississippi showed increases near the national average of 4 percent. In the West South Central and Mountain States, however, land values increased 8 and 6 percent, respectively.

Preliminary estimates for March 1949 show the first general tendency for land values to level off since before the war. Higher production costs and lower net farm incomes for 1948 apparently have checked further advances in some States, and have resulted in small declines from the November level in others.

More than half of all sales during 1948 were cash deals, and down payments on credit-financed sales averaged slightly over two-fifths of the purchase price. Mortgage credit in recent years has been supplied mainly by individuals and commercial banks.

Farm land continued to yield a high rate of return in 1948, although slightly less than the previous year. Cash rents per acre in 1948 were

about 12 percent higher than in 1947, but this increase was at least partly offset by higher taxes and building costs. The value of the gross rent paid for land rented on a crop-share basis was about 4 percent less than in 1947, largely as a result of lower prices for grain crops. Total net rents, including both cash and share, probably were down about 4 percent from the previous year, but were still more than one and one-half times as high as in 1940.

Interest, Taxes, and Insurance

Interest payments - Aggregate interest payments on farm real estate loans are expected to rise further in 1949. Preliminary estimates for 1948 indicate that payments due for interest on debts increased about 4 percent compared with a 2 percent rise in 1947. It is expected that interest payments on farm-mortgage debt in 1949 may rise as much or even more than in 1948. Such charges, however, still would be materially lower than after World War I, when farm-mortgage debt reached a peak more than double current levels.

While interest rates on new loans have strengthened somewhat in recent months, the volume of such loans in relation to loans outstanding has not been sufficient to greatly affect total interest charges. The main factor in the rise of interest charges has been the increase in farm-mortgage debt. This has risen about 10 percent since January 1, 1946 when it reached a 32-year low.

The total amount of interest paid by farmers on non-real-estate debt during 1948 was substantially higher than that paid during the war and prewar years. It will continue relatively high during 1949 and may show some increase over 1948. The increase since the war resulted primarily from a greater volume of borrowing by farmers. The volume of non-real-estate loans to farmers held by the principal institutional lenders during 1948 averaged over 20 percent greater than in 1947 and about 50 percent greater than for the period 1941-45. Individual loans are larger and there are indications that more farmers are borrowing. A slight increase in interest rates in the past year or two also has contributed to the higher interest payments. In contrast to long-term mortgage loans these short-term loans quickly reflect any change in interest rates.

Taxes - Preliminary reports for the country as a whole indicate that property-tax payments which will become a part of farm-production costs in 1949 will be somewhat higher than those for the preceding year. This would be the fifth consecutive increase in farm-property-tax levies.

The increase in the 1948 levies, which are payable late in 1948 or early in 1949, may not equal the 15 percent rise shown in the last yearly survey. There are continuing pressures upon the revenues of local governments (the property tax being a principal source), but very recently many of the States have granted broader taxing powers to local jurisdictions.

Insurance - Fire (and lightning) insurance on farm property increased about 11 percent in 1948, compared with about 10 percent in 1947 and 7 percent in 1946. The continued increase in farm-property valuations influenced some farmers to increase their policies and caused others to take out insurance. The premium and assessment rates charged farmers have not changed much in recent years, so that the aggregate insurance costs of farmers have increased in about the same proportion as the amount of insurance in force.

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